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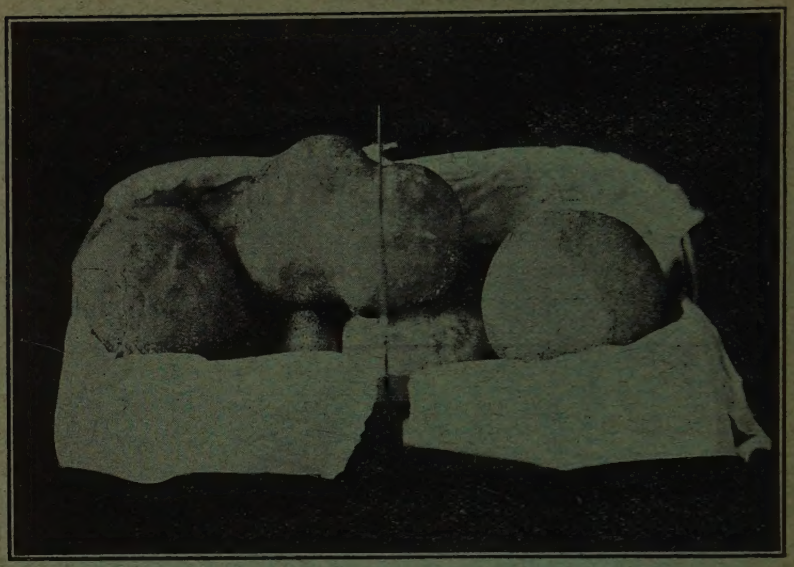

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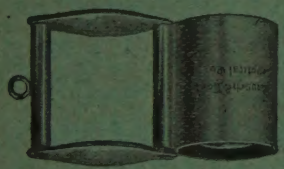

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Mycological Bulletin

No. 76

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Columbus, April, 1907.

KAUFFMAN'S ARTICLE AND ILLUSTRATIONS CONCLUDED.

We devote this number to a note on Kauffman's Key to Cortinarius and some of his illustrations that appeared first in the Torrey Bulletin.

THE GENUS CORTINARIUS WITH KEY TO THE SPECIES.

BY C. H. KAUFFMAN.

The editor of the Journal has asked me to furnish an account of the genus *Cortinarius* with *Key* to the species. What follows is given in response to this invitation. I desire to call attention to what was published in the *Bulletin of the Torrey Botanical Club,* based mainly on my study of the species found at Ithaca, N. Y. The cuts prepared for the illustrations then have been kindly loaned for use here.

I quote from the same article the following:

"It is absolutely useless to pick up an old, dried specimen of *Cortinarius,* and ask any one to recognize it. Once in a while some easily known plant may be recognized in that way, but in the majority of cases old plants of different species look so much alike that it is mere guessing to say anything about them. The first thing to remember is that young, unexpanded plants must be examined as well as mature ones. Next a careful description must be made, *with special reference to the difference in the color of the gills in the young and old plants.* Then a similar comparison of the color of pileus and stem; and then a search for an annulus or universal veil, and its character. Finally, a careful test of the pileus and stem for gluten or viscidity. (One must remember that old, dry plants may lose this character.) These points are absolutely essential. In addition to the above, the following characters are often useful: the shape of the pileus; the size of the parts; the smoothness of the surface of pileus and stem; the character of the edge of the gills; the nature of the bulbous base of the stem; the appearance of the flesh. In fact, the notes cannot be too full, *provided they contain the essential facts mentioned first."* (*Bulletin of tne Torrey Botanical Club.*)

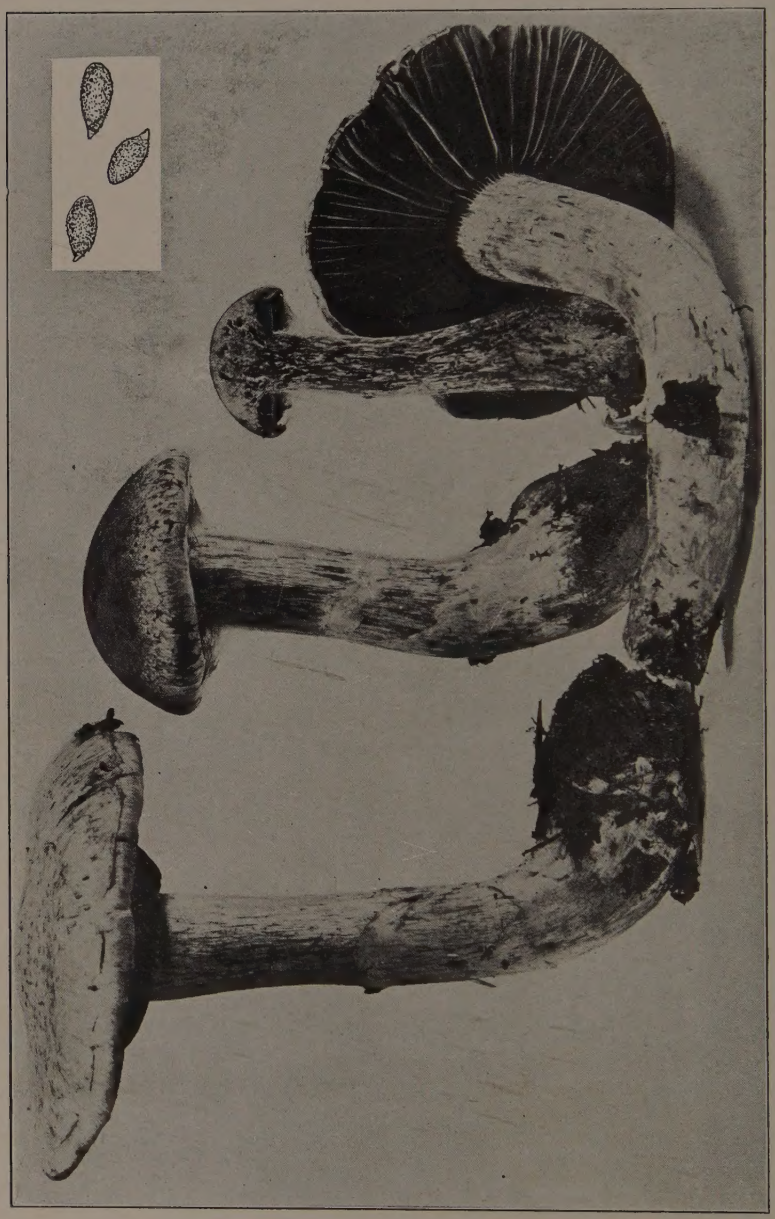

Fig. 239.—Cortinarius umidicola Kauff.

THE KEY.

The key which is here presented is a revision, with many additions, of the key printed in the Bulletin of the Torrey Botanical Club, June, 1905. It is based on the study of fresh plants; but there have been added a few which the writer has not seen, but which have characters so easily recognized, and so different from others, that they were thought worthy of inclusion. This key, like its predecessor, necessarily has many shortcomings. As long as we are not sure what American plants are really identical with European ones, and so long as good figures or photographs of the species described for North America, are lacking, we are easily able to mistake the meanings of the descriptions, which are often of the very briefest. Hence this list is merely offered as a slight forward step towards opening up for amateurs the study of this interesting genus.

Six species, which the writer believes to be undescribed, have been included, although their descriptions have not yet been published. All of them have been collected or been received from various places more than once, and by inserting them in the key, we may be able to help those who continue to come across them. It is hoped soon to publish descriptions of them elsewhere.

It is to be noted that the key has been built largely on the size of the spores. This will necessitate, it is hoped, the study of the plant under the microscope, and so initiate the beginner at once into the proper study of these fungi. We know that two different species of mushrooms have again and again been placed under one name because of similar external appearances, when an examination of the spores would have shown a difference of as much as 8 microns in some cases. In deciding on the size of spores, the measurement of mature spores only should be taken, which may be recognized by the dark wall or the roughness of the exospore; even in plants with yellowish spores a difference between young and mature spores can be made out.

KEY TO THE COMMON SPECIES OF CORTINARIUS OF EASTERN NORTH AMERICA.

A. Pileus with a gelatinous cuticle, more or less viscid or glutinous when moist, as is also the stem in some species. (Myxacium and Phlegmacium.)

a. Pileus coarsely corrugate ..... *C. corrugatus Pk.*

aa. Pileus not coarsely corrugate

b. Surface of pileus or flesh distinctly bitter

c. Pileus yellow

d. Glutinous when young, very bitter; stem white
C. amarus Pk.
C. vibratilis Fr.

dd. Not glutinous; stem and gills citron yellow; flesh rather bitter; spores 14-17x7-9..... *C. turbinoides sp. nov.*

cc. Pileus dark olivaceous to fuliginous, surface bitter....
..... *C. infractus Fr.*

bb. Taste not distinctly bitter

c. Spores large, 9-16μ long

d. Stem short, subequal or marginate-bulbous, spores 9-12μ long.

e. Pileus heliotrope-purple; gills close, narrow and concolor; plant medium size..... *C. heliotropicus Pk.*

ee. Pileus some shade of yellow or greenish

f. Gills whitish at first; pileus tinged greenish; stem not bulbous ..... *C. olivaceo-stramineus Kauff.*

ff. Gills yellow to yellowish at first; stem marginate-bulbous

g. Bulb top-shaped; gills entire; flesh white..... *C. turbinatus Fr.*

gg. Bulb truncate below; gills eroded, flesh yellow; whole plant citron-yellow ..... *C. sulfurinus Quel*

Fig. 240—Cortinarius crocecolor Kauff.

eee. Pileus whitish, no greenish tinge
f. Stem marginate-bulbous; plant whitish throughout..*C. albidus Pk.*
ff. Stem equal to subequal; pileus whitish or tinged red.....
..... *C. communis Pk.*
dd. Stem long and bulbous; gills and stem violaceous at first.
e. Spores 10-12.5μ long; pileus pale brown; on sphagnum..
.....*C. sphagnophilus Pk.*
ee. Spores 13-16μ long; pileus yellow; in woods.....
.....*C. Atkinsonianus Kauff.*
ddd. Stem not bulbous, long and cylindrical, plant more or less glutinous
e. Stem with evanescent, patch-like scales
f. Gills palid at first.....*C. elatior pallidifolius Pk.*
ff. Gills violaceous at first.....*C. cylindripes Kauff.*
ee. Stem with broken, concentric rings of floccose scales, usually somewhat narrowed at base .....*C collinitus Fr.*
cc. Spores smaller, 6-9μ long
d. Pileus olivaceous, stem bulbous
e. Universal veil present; spores 8-9μ long....*C. olivaceoides sp. nov.*
ee. No. remains of a universal veil; spores 6-7μ long.*C. olivaceus Pk.*
dd. Pileus violaceous or purple, or at least tinged violaceous
e. Pileus glutinous when young and moist.

The Key of which the above is a small portion, will be concluded in the May Bulletin. It is also printed entire in pamphlet form for sale.

Fig. 241.—CORTINARIUS DECEPTIVUS Kauff.

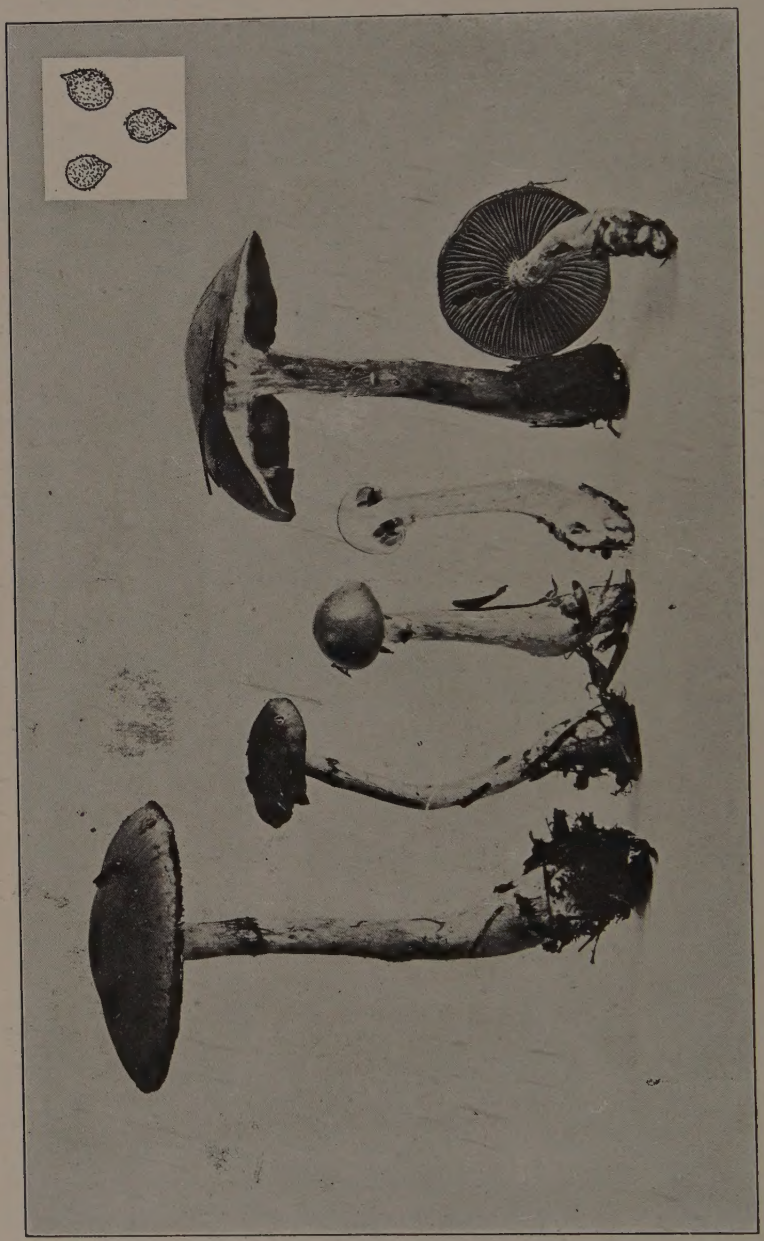

Fig. 242.—Cortinarius sterilis Kauff.

Fig. 243.—Cortinarius olivaceo-stramineus Kauff.

Fig. 244.—CORTINARIUS CYLINDRIPES Kauff.

The Mycological Bulletin is issued Monthly, Price 25c. Copies of Vol. II (1904), Vol. III. (1905) and Vol. IV (1906) may be had for 50 cents each, or cloth bound copies for 75 cents. No copies remain of Vol. I (1902). Address W. A. Kellerman, Columbus, Ohio

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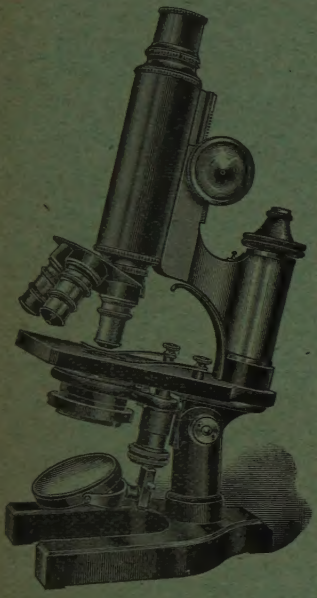

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